

1 ABSTRACT OF THE DISCLOSURE

2 A capacitor fabrication method may include forming a first
3 capacitor electrode over a substrate and atomic layer depositing an
4 insulative barrier layer to oxygen diffusion over the first electrode. A
5 capacitor dielectric layer may be formed over the first electrode and a
6 second capacitor electrode may be formed over the dielectric layer. The
7 barrier layer may include Al_2O_3 . A capacitor fabrication method may
8 also include forming a first capacitor electrode over a substrate,
9 chemisorbing a layer of a first precursor at least one monolayer thick
10 over the first electrode, and chemisorbing a layer of a second precursor
11 at least one monolayer thick on the first precursor layer. A
12 chemisorption product of the first and second precursors may be
13 comprised by a layer of an insulative barrier material. The first
14 precursor may include H_2O and the second precursor may include
15 trimethyl aluminum.